



## Exploring the consequences of climate change for indoor air quality

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### Abstract:

Climate change will affect the concentrations of air pollutants in buildings. The resulting shifts in human exposure may influence public health. Changes can be anticipated because of altered outdoor pollution and also owing to changes in buildings effected in response to changing climate. Three classes of factors govern indoor pollutant levels in occupied spaces: (a) properties of pollutants; (b) building factors, such as the ventilation rate; and (c) occupant behavior. Diversity of indoor conditions influences the public health significance of climate change. Potentially vulnerable subpopulations include not only the young and the infirm but also those who lack resources to respond effectively to changing conditions. Indoor air pollutant levels reflect the sum of contributions from indoor sources and from outdoor pollutants that enter with ventilation air. Pollutant classes with important indoor sources include the byproducts of combustion, radon, and volatile and semivolatile organic compounds. Outdoor pollutants of special concern include particulate matter and ozone. To ensure good indoor air quality it is important first to avoid high indoor emission rates for all pollutants and second to ensure adequate ventilation. A third factor is the use of air filtration or air cleaning to achieve further improvements where warranted.

**Source:** <http://dx.doi.org/10.1088/1748-9326/8/1/015022>

### Resource Description

#### Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Extreme Weather Event, Indoor Environment, Unspecified Exposure

**Air Pollution:** Allergens, Dust, Interaction with Temperature, Ozone, Particulate Matter, Other Air Pollution

**Air Pollution (other):** CO; NO<sub>2</sub>; radon; VOCs; SO<sub>2</sub>

**Extreme Weather Event:** Wildfires

#### Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

#### Geographic Location:

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resource focuses on specific location

Global or Unspecified

## **Health Co-Benefit/Co-Harm (Adaption/Mitigation):**

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

## **Health Impact:**

specification of health effect or disease related to climate change exposure

Cancer, Cardiovascular Effect, Morbidity/Mortality, Respiratory Effect

**Cardiovascular Effect:** Heart Attack

**Respiratory Effect:** Asthma, Upper Respiratory Allergy, Other Respiratory Effect

**Respiratory Condition (other) :** respiratory mortality

## **Intervention:**

strategy to prepare for or reduce the impact of climate change on health

A focus of content

## **Mitigation/Adaptation:**

mitigation or adaptation strategy is a focus of resource

Adaptation, Mitigation

## **Population of Concern:** A focus of content

## **Resource Type:**

format or standard characteristic of resource

Review

## **Timescale:**

time period studied

Time Scale Unspecified